REMARKS

This Amendment is in response to the Office Action mailed on June 22, 2010. Claim 1 is amended and is supported, for example, on page 7, lines 9-13, page 13, lines 12-16, and page 14, lines 13-16 (i.e. paragraphs [0022, 0051 and 0058] of the specification. Claim 1 is further amended editorially. No new matter is added. Claims 1-10 are pending.

Claim Objections:

Claim 1 is objected to for informalities. Claim 1 is amended and no longer contains the informalities identified in the objection. Withdrawal of this objection is requested.

§103 Rejections:

Claims 1-4 and 6-9 are rejected as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of Uchiyama (US Patent No. 6,839,178). This rejection is traversed.

Claim 1 is directed to an imaging apparatus that recites, among other features, that a depth of the grooves is larger than a half and 70 % or less of a thickness of the microlens array except for protruding portions of the mircrolenses. Claim 1 also recites that the microlens array is formed as a single unitary structure.

The combination of AAPA and Uchiyama does not teach or suggest these features. The rejection interprets the combination of the lens members 105 and the protective layer 106 of Uchiyama as the mircolens array of claim 1. However, by definition the lens members 105 and the protective layer 106 are at least two different structures. Thus, Uchiyama does not teach or suggest a microlens array formed as a single unitary structure. AAPA does not overcome these deficiencies of Uchiyama. Accordingly, the combination of AAPA and Uchiyama does not teach or suggest that the microlens array is formed of a single material, as recited in claim 1.

Also, it is technically impossible for the lens members 105 of Uchiyama to satisfy the features of a depth of the grooves is larger than a half and 70 % or less of a thickness of the microlens array except for protruding portions of the mircrolenses.

Uchiyama teaches that a microlens array is produced by discharging drops 108 of lens member compositions 104 into spaces bounded by a light-absorption material 102 (see Figure 1b of Uchiayama). The form of the convex curved surfaces of the lenses is determined by the surface tensions of the lens member compositions 104, etc. (see column 9, lines 3-9 of Uchiyama). Thus, according to the above method, the depth of the grooves (i.e., the height of the light absorption material 102) in the configuration of Uchiyama then is required to be substantially the same as the thickness of the microlens array (i.e., the thickness of the microlens array except for the protruding portions of the microlenses).

Further, if an attempt is made to set the depth of the grooves (i.e., the height of the light absorption material 102) at 70 % or less of the thickness of the microlens array, the lens member compositions 104 would overflow the light-absorption material 102, making it impossible to form the convex curved surface of lenses. This would destroy the intended operability of the transmissive screen of Uchiyama.

Accordingly, it would not be obvious to one skilled in the art to set the depth of the grooves at larger than a half and 70 % or less of the thickness of the microlens array except for the protruding portions of the microlenses based on the teachings of Uchiyama.

For at least these reasons claim 1 is not suggested by the combination of AAPA and Uchiyama and should be allowed. Claims 2-4 and 6-9 depend from claim 1 and should be allowed for at least the same reasons.

Claims 5 and 10 are rejected as being unpatentable over AAPA in view of Uchiyama and further in view of Nishikawa. This rejection is traversed. Claims 5 and 10 depend from claim 1 and should be allowed for at least the same reasons discussed above. Applicants do not concede the correctness of this rejection.

Conclusion:

Applicants respectfully assert that the pending claims are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

Respectfully submitted,

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